

Appl. No. 09/511,795
Amdt. Dated February 3, 2004
Reply to Office action mailed November 3, 2003

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): In a multi-service network switch, a method for providing tiered access to system resources, the method comprising:

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- maintaining in a data store of the network switch an access level of ~~[[three]]~~ two or more access tiers for a characteristic associated with a connection request, the access level for each of the access tiers being associated with an access threshold;
- receiving an incoming connection request;
- determining the characteristic of the incoming connection request;
- retrieving the access level for the determined characteristic from the data store;
- assigning the retrieved access level to the incoming connection request;
- identifying the resource request by the incoming connection request;
- determining an amount of current usage for the identified resource; and
- allocating the identified resource to the incoming connection request if the amount of current usage is less than the access threshold associated with the assigned level.

Claim 2 (original): The method of claim 1 further comprising:

- terminating an established connection based on its access level; and
- deallocating the resource previously allocated to the terminated connection.

Claim 3 (original): The method of claim 3, wherein the system resources are partitioned among a plurality of virtual routers, and the monitoring usage of the system resources comprises monitoring usage of the system resources associated with each virtual router.

Claim 4 (original): The method of claim 1, wherein the characteristic of the incoming call is a type of inlink carrying the incoming connection request.

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Claim 5 (original): The method of claim 1, wherein the characteristic of the incoming call is a telephone number associated with the incoming connection request.

Claim 6 (original): The method of claim 1, wherein the characteristic of the incoming call is a type of user submitting the connection request.

Claim 7 (original): The method of claim 1 further comprising:

- communicating a request for the identified resource, the communicated request including the identified quality of access level;
- communicating a response indicating that the identified resource is available; and
- communicating a request to allocate the identified resource.

Claim 8 (currently amended): A multi-service network switch providing tiered access to system resources, the switch comprising:

- a data store storing an access level of ~~[[three]]~~ two or more access tiers for a characteristic associated with a connection request, the access level for each of the access tiers being associated with an access threshold;
- means for receiving an incoming connection request;
- means for determining the characteristic of the incoming connection request;
- means for retrieving the access level for the determined characteristic from the data store;
- means for assigning the retrieved access level to the incoming connecting request;
- means for identifying the resource request by the incoming connection request;
- means for determining an amount of current usage for the identified resource; and
- means for allocating the identified resource to the incoming connection request if the amount of current usage is less than the access threshold associated with the identified access level.

Claim 9 (original): The switch of claim 8 further comprising:

- means for terminating an established connection based on its access level; and
- means for deallocating the resource previously allocated to the terminated connection.

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Claim 10 (original): The switch of claim 9 wherein the system resources are partitioned among a plurality of virtual routers, and the means for monitoring usage of the system resources comprises means for monitoring usage of the system resources associated with each virtual router.

Claim 11 (original): The switch of claim 8, wherein the means for assigning the access level comprises means for assigning the access level based on a characteristic of the incoming call.

Claim 12 (original): The switch of claim 8, wherein the means for assigning the access level comprises means for assigning the access level based on a type of user submitting the connection request.

Claim 13 (original): The switch of claim 8 further comprising:

means for communicating a request for the identified resource, the communicated request including the identified quality of access level;

means for communicating a response indicating that the identified resource is available; and

means for communicating a request to allocate the identified resource.

Claim 14 (currently amended): A multi-service network switch including a plurality of interface modules, each interface module comprising:

interface lines for receiving an incoming connection request;

a data store storing an access level of ~~[[three]]~~ two or more access tiers for a characteristic associated with a connection request, the access level for each of the access tiers being associated with an access threshold; and

a processor coupled to the data store, the processor being operable to execute program instructions including:

determining the characteristic of the incoming connection request;

retrieving the access level for the determined characteristic from the data

store;

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assigning the retrieved access level to the incoming connection request;
identifying the resource requested by the incoming connection request;
communicating a request for the identified resource, the communicated
request including the assigned quality of access level;
receiving a response indicating that the identified resource is available; and
communicating a request to allocate the identified resource.

Claim 15 (original): The interface module of claim 14, wherein the program instructions further comprise:

monitoring usage of the local resources for each access level;
receiving the request for the identified resource;
determining an amount of current usage for the identified resource; and
allocating the identified resource to the incoming connection request if the amount of
current usage is less than the access threshold associated with the assigned access level.

Claim 16 (original): The interface module of claim 14 wherein the program instructions further comprise:

terminating an established connection based on its access level; and
deallocating the resource previously allocated to the terminated connection.

Claim 17 (previously presented): The interface module of claim 14, wherein the local resources are partitioned among the plurality of virtual routers, and the data store stores the list of local resources for each virtual router.

Claim 18 (original): The interface module of claim 14, wherein the characteristic of the incoming call is a type of inlink carrying the incoming request

Claim 19 (original): The interface module of claim 14, wherein the characteristic of the incoming call is a telephone number associated with the incoming connection request.

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Claim 20 (original): The interface module of claim 14, wherein the characteristic of the incoming call is a type of user submitting the connection request.

Claim 21 (previously presented): The method of claim 2, wherein if there are more than one allocated connection having the same assigned access level to be terminated, the order of terminating is according to first-in-first-out.

Claim 22 (previously presented): The multi-service network switch of claim 9, wherein if there are more than one allocated connection having the same assigned access level to be terminated, the order of terminating by the means for terminating is according to first-in-first-out.

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Claim 23 (previously presented): The multi-service network switch of claim 16, wherein if there are more than one allocated connection having the same assigned access level to be terminated, the order of terminating by the program instructions is according to first-in-first-out.

Claim 24 (new): In a multi-service network switch, a method for providing tiered access to system resources, the method comprising:

maintaining in a data store of the network switch an access level of two or more access tiers for a characteristic associated with a connection request, the access level for each of the access tiers being associated with an access threshold;

receiving an incoming connection request;

determining the characteristic of the incoming connection request;

retrieving the access level for the determined characteristic from the data store;

assigning the retrieved access level to the incoming connection request;

identifying the resource request by the incoming connection request;

determining an amount of current usage for the identified resource;

allocating the identified resource to the incoming connection request if the amount of current usage is less than the access threshold associated with the assigned level; and

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terminating an established connection based on its access level if the amount of current usage is greater than the access threshold associated with the assigned level.
